

DPD 7000-61  
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*CMH*

**\*USAF Declass/Release Instructions On File\***

November 9, 1961

File No.: HD-P-235

25X1A

[REDACTED]

Dear Charlie:

Early in 1960 I submitted a proposal to "Doc" for the much needed complete overhaul of all MK I Trackers, thus, allowing us to accomplish a number of revisions.

This overhaul has been completed and the attached report shows exactly what was done. I feel that this has been a major contribution to our improved reliability, along with the excellent performance of our Technical Representatives in the field.

The quality of product has also been greatly improved through this program, and the only weak link in the system, at present, is the clock. I will soon be submitting a proposal for new clocks to eliminate this last weak area.

Sincerely,

25X1A

[REDACTED]

AVH:hmd

25X1A

*IIPE*

25X1A

November 8, 1961

TO:

FROM:

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The MK IA Tracker turnaround as outlined in PE-7 is now completed. A brief summary of work performed will show the present status of these units.

Approximate dates of this overhaul were 2-20-60 to 10-20-61. During this 20 month period 15 units were reworked at our M & O facility. The time involved for total completion was slightly longer than originally anticipated. Greater time in transit, misplacing of units in warehouse changeover, and flexibility to meet varying requirements at detachments were significant factors in delaying the total completion time.

All units are thoroughly standardized with the ten existing modification changes. In addition to transistorized metering control, shock mounted ratchet, revised scan cam, heater element and film guide modifications previously outlined in schedule B of PE-7, several other changes have been incorporated.

- 1.) Electrical Intervalometer and Main Cable (PE-12) -- Installation has proven to be the greatest single factor in increased reliability.
- 2.) Latch and Lever kit (PE-13) -- Has definitely eliminated a former trouble spot.
- 3.) Modified Brake Band Assembly PE(11) -- Is currently giving increased performance.

Schedule A which applies to the scope of rework to be performed was closely followed as an outline. All areas listed in the overhaul schedule were thoroughly reworked and elaborated on where necessary.

- 1.) Electrical overhaul centered around new intervalometer and main cable. Auxiliary cable, relay rack, control panel and component board were given strict Quality Control testing and reworked when necessary. Combined with complete replacement of all electrical components the electrical rework program results in the optimum electrical package.
- 2.) Optical system checks were thoroughly covered. Resolution shots are now on file for each unit. The final dynamic resolution on any reworked Tracker is now in excess of 45 lines per millimeter. Special devices for testing and minimizing of banding were developed. All prisms, domes, lens elements, filters and reverting mirrors are now restored to best possible condition.
- 3.) Mechanical rework covered all areas as outlined in proposal. Primarily, upon receipt the units were stripped to the basic main casting. Following repainting and anodizing, the individual sub-assemblies were completely rebuilt and reassembled.

*Encl #1*

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Every opportunity to gather, record and analyze facts concerning component life and reliability was thoroughly explored. Several of the major areas involved were:

- 1.) Electrical component life. With the assistance of field maintenance records, specific life hours of components are now recorded and confirmed. These components included all relays, solenoids, switches, thermal protectors, capacitors, motors, transistors and, in general, any electrical item in the Tracker.
- 2.) Mechanical components - All critical mechanical assemblies were subjected to rigid QC, and any variation from original specification was carefully analyzed.
- 3.) Optical components - Environmental effects on glass, coatings and bonding techniques were the most important areas explored.

Part of the final test for each unit was environmental. A special controlled humidity and altitude chamber was employed to create conditions closely corresponding to actual use.

All of the various data gathered as a result of this turnaround program is presently being analyzed. From careful study of this information an ideal time for future overhaul can accurately be predicted.

25X1A

  
M & O Supervisor

JWL:hnd